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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/421,605    10/20/99    GLAWE    A    2393/504

IM22/0214

BRINKS HOFER GILSON & LIONE  
PO BOX 10395  
CHICAGO IL 60610

EXAMINER
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JACKSON, M

ART UNIT	PAPER NUMBER
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1773

DATE MAILED:

02/14/01

*4*

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

<b>Office Action Summary</b>	Application No. 09/421,605	Applicant(s) GLAWE ET AL.	
	Examiner Monique R Jackson	Art Unit 1773	

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

**Attachment(s)**

- |   |  |
|---|--|
| 15) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                  | 18) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 16) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)              | 19) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 17) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> . | 20) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Specification*

1. The use of the many trademarks has been noted in this application. They should be capitalized wherever they appear and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks. Using trademarks in the claims would affect their validity as trademarks.

### *Claim Rejections - 35 USC § 112*

2. Claims 1-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 recites the limitation “at least one adhesive that bonds said outer, intermediate, and inner layers together” in lines 7-8. It is unclear how “one adhesive” would bond all three layers together.

3. Claims 5, 17, and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 5, 17 and 18 recite the abbreviation “MP” however it is unclear whether MP refers to melting peak, melting point, or some other term. The Examiner suggests that the Applicant avoid the use of abbreviations in the claims or provides the full terminology adjacent the first occurrence of the abbreviation.

4. Claims 6, 19, 24, 26, 28, and 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which

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applicant regards as the invention. Claims 6, 19, 24, 26, 28, and 32 rely on trademarks as the only limitations narrowing a preceding claim which renders the claims indefinite for a trademark can change over time and hence does not provide a sufficient description of the limitations intended to be encompassed by the claims. Further, the Applicant may be limiting themselves from utilizing other materials having similar compositions as the cited trademark product. The Examiner suggests that the Applicant should generically claim the materials not the particular trademarks.

5. Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 17 recites the limitation “wherein nylon 6,66 is an 85/15 copolymer with the 85 being the nylon 6 component” is unclear.

6. Claim 29 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 29 recites the limitation “greater than about” in line 2 which renders the claim indefinite for the term “greater than” indicates that the value is larger than a particular end-point, however about the end-point is variable. Hence, “greater than about 35 $\mu$ m” could actually correspond to a value less than 35 $\mu$ m, ie. 34 $\mu$ m is **about** 35 $\mu$ m, and 34.5 $\mu$ m is **greater than** 34 $\mu$ m, therefore, based on the limitation as cited, 34.5 $\mu$ m is **greater than about** 35 $\mu$ m.

7. Claims 33-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 33-35 recite the limitation “wherein at least one adhesive has a thickness of about” in lines 1-2. However, it is unclear as to what this thickness corresponds, whether a

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layer comprising an adhesive component such as an outer or core layer has the indicated thickness, or a separate adhesive layer has the indicated thickness, considering the parent claim 1 only recites "at least one adhesive" not "at least one adhesive layer".

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 4, 10, 14-19, 31 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Vicik (USPN 5,053,259.) Vicik teach a multilayer thermoplastic flexible film having improved processability, shrinkage, and optical properties, comprising an oxygen barrier core layer comprising a blend of 10-70wt% of an amorphous nylon copolymer such as nylon 6I/6T like SELAR PA 3426, and 10-90wt% of a nylon copolyamide such as nylon 6/66 with an example having a melting point of about 195°C sold under the tradename NYLON 1539; and a first and second outer layer and optionally intermediate layers made of any suitable resin or resin blend (Abstract; 5:12-25; 6:24-26; 7:20-34; 7:57-60.) Suitable resins include polyolefin resins such as polypropylene, low density polyethylene, linear low density polyethylene (LLDPE), very low density polyethylene (VLDPE) and copolymers and/or blends thereof including ethylene vinyl acetate (EVA), ionomers, polyvinylchloride, ethylene vinyl alcohol, and various blends thereof (7:60-8:2.) Preferred components of the outer layers are LLDPE, VLDPE, EVA and blends thereof, wherein VLDPE is a copolymer of ethylene and at least one comonomer selected from C4 to C10  $\alpha$ -olefins (8:3-4; 8"16-19.) Adhesives may also be blended in the layers or

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adhesive layers may be laminated, coated or coextruded (8:26-27.) Suitable adhesive resins include anhydride based EVA and LLDPE resins with a preferred adhesive resin being an ethylene based polymer containing vinyl acetate and anhydride functionality (8:28-31.) Also, if desired, well known additives such as processing aids, slip agents, antiblocking agents, pigments and mixtures thereof may be incorporated into the film generally in small amounts up to about 10% by weight (8:38-42.) The films may be uniaxially or biaxially oriented films made by well known conventional processes (7:53-56.) Vicik also teach that by definition, the term “amorphous nylon copolymer” refers to a material recognized by one skilled in the art of differential scanning calorimetry as having no measurable melting point (less than 0.5 cal/g) (4:63-67.) Beneficially in food packaging applications, a thermoplastic film comprises the nylon blend layer with a preferred range in thickness from about 0.3 to about 1.5 mils (equivalent to about 7.62 to about 38.1 $\mu$ m) (16:21-26.) Generally multilayer films having sufficient desired properties including strength will be in the range of 1.5 to 3.5 mils (equivalent to 38.1 to 88.9 $\mu$ m) (16:26-30.) In a preferred multilayer food packaging embodiment, the multilayer film structure utilizes an intermediate layer containing the nylon blend which acts as an oxygen barrier layer and comprises about 20 to 30% of the total thickness of the multilayer film (17:1-6.) The outer layer adapted for placement adjacent to a food product is generally about 45 to 55 percent of the total thickness and the opposing outer layer is typically 20 to 35 percent (17:6-10.) Vicik further teach that it is contemplated that those of ordinary skill in the art will readily vary layer and film thicknesses according to particular packaging requirements (17:18-21.)

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 7-9, 20-22, 29-30, and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vicik as applied to Claims 1, 4, 10, 14-19, and 31-32 above. The teachings of Vicik are discussed above. Though Vicik does not specifically teach the thickness limitations of the instantly claimed invention, Vicik does note that it is contemplated that those of ordinary skill in the art will readily vary layer and film thicknesses according to particular packaging requirements (17:18-21.) Therefore, in the absence of a showing of expected results, it would have been obvious to one having ordinary skill in the art to optimize the thickness of the multilayer film and layers to provide the desired packaging properties for a particular end use.

12. Claims 2, 3, 5-9, and 11-13, 20-22, 29-30, and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vicik in view of Wilhoit (USPN 5,283,128.) The teachings of Vicik are discussed above. Vicik does not specifically teach the composition of the outer blend layer in terms of weight percentages of very low density polyolefin and ethylene vinyl acetate and does not teach the use of a specific type or amount of processing aid. However, Wilhoit teaches a biaxially oriented heat shrinkable film comprising a blend of very low density polyethylene and ethylene vinyl acetate as one or more outer layers on either side of a three layer film wherein the core layer between these layers is an oxygen barrier material (3:9-35.) The blend in the outer layer comprises about 35 to about 60wt% of the polyethylene such as a VLDPE that is an

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ethylene-octene copolymer, about 40 to about 65wt% of the ethylene vinyl acetate, and about 10 to about 20wt% of an ethylene-alpha-olefin plastomer copolymer of a density below about 0.90 g/cm<sup>3</sup> such as TAFMER 1085 which has a vicat softening point of 58°C, wherein the weight percentages are based on the total weight of the three component blend (3:9-35.) Wilhoit teach that the blend layer provides improved shrink, optical characteristics and curl properties as well as providing bubble stability and reduced waste (Example 14; 30:65-31:2.) Though processing aids comprising fluorocarbon resins are well known processing aids to those skilled in the art, Vicik does not specifically teach the type or amount of processing aid utilized in the film. However, it would have been obvious to one having ordinary skill in the art at the time of the invention to select an appropriate processing aid, including commercially available aids, optimizing the amount to be included in the film utilizing routine experimentation. Further, the use of processing aids comprising fluorocarbon resins within the instantly claimed ppm range are well known in the art as evidenced by Wilhoit (Samples 1-2.) Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to utilize the blend taught by Wilhoit to provide improved outer layer properties such as optical characteristics for the multilayer film taught by Vicik optimizing the film and layer thickness as well as the amount of processing aids added, while utilizing routine experimentation and well known, commercially available materials for a desired packaging end use.

13. Claims 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vicik in view of Webb (USPN 4,335,175) or Friedrich et al (USPN 4,859,514.) The teachings of Vicik are discussed above. Though Vicik teach that the outer layers may comprise an ionomer or an adhesive component, Vicik does not specifically teach the ionomer may be a zinc or sodium



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ionomer. However, the use of zinc or sodium ionomers, including those commercially available such as under the trademarks SURLYN 1650 or 1601, in the outer sealant layers of multilayer barrier packaging films to provide adhesive properties is well known in the art as evidenced by Webb (3:33-37) or Friedrich et al (3:43-46; Group IV Table), and would have been obvious to one having ordinary skill in the art at the time of the invention.

14. Claims 7-9, 20-22, 27-30, 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vicik in view of Georgelos (USPN 5,593,747) or Lambert et al (USPN 6,106,935.) The teachings of Vicik are discussed above. Though Vicik teach that the outer layers may comprise polyolefins including ethylene copolymers such as VLDPE, Vicik does not specifically teach that the outer layers comprise a metallocene-catalyzed ethylene-olefin copolymer. However, Georgelos teach a biaxially oriented film comprising an ethylene alpha olefin copolymer that has improved properties including very high heat shrink and puncture resistance properties and can be used as a part of a multilayer construction such as one including an oxygen barrier nylon core layer (Abstract; 1:55-64; 3:61-65.) The ethylene alpha olefin copolymer may be prepared by a homogenous metallocene single-site catalyst system (4:15-20.) Georgelos further teach an example comprising a three layer film with outer layers comprising AFFINITY VLDPE (PL 1880) commercially available from Dow (Example 32.) Additionally, Lambert et al teach a biaxially oriented, heat sealable film comprising an oxygen barrier core layer such as polyamide, and two outer layers (or inner and outer layers) comprising an ethylene alpha-olefin copolymer including homogenous copolymers like those available from Dow Chemical Company, known as AFFINITY resins such as AFFINITY PL 1880, wherein the outer layers (2:25-47; 3:50-62; Table 1; 6:29-31.) Lambert et al teach that the outer blend layer

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including the metallocene catalyzed ethylene alpha-olefin copolymer provides improved heat seal properties for packaging applications (Col. 1.) Therefore, it would have been obvious to one having ordinary skill in the art to utilize well known metallocene-catalyzed ethylene alpha-olefin copolymers or commercially available ethylene copolymers, to provide improved sealing properties for multilayer packaging materials, as evidenced by Georgelos or Lambert et al, for the sealant layer in the multilayer packaging film taught by Vicik, optimizing the thickness of the film and layers to meet packaging requirements for a particular end use.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R Jackson whose telephone number is 703-308-0428. The examiner can normally be reached on Mondays-Thursdays, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul J Thibodeau can be reached on 703-308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-5436 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



mrj  
February 11, 2001



Paul Thibodeau  
Supervisory Patent Examiner  
Technology Center 1700